

soils containing not only proteins but also sebum or the like.

SEQUENCE LISTING

<110> KAO CORPORATION

<120> Alkali protease

<130> P

<150> JP 2003-106708

<151> 2003-04-10

<160> 8

<170> PatentIn Ver. 3.1

<210> 1

<211> 434

<212> PRT

<213> Bacillus sp. KSM-KP43

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Tyr Gly Leu Tyr Gly Gln Gly Gln Ile Val Ala Val Ala Asp Thr Gly

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Leu Asp Thr Gly Arg Asn Asp Ser Ser Met His Glu Ala Phe Arg Gly

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Lys Ile Thr Ala Leu Tyr Ala Leu Gly Arg Thr Asn Asn Ala Asn Asp			
50	55	60	
Thr Asn Gly His Gly Thr His Val Ala Gly Ser Val Leu Gly Asn Gly			
65	70	75	80
Ser Thr Asn Lys Gly Met Ala Pro Gln Ala Asn Leu Val Phe Gln Ser			
85	90	95	
Ile Met Asp Ser Gly Gly Gly Leu Gly Gly Leu Pro Ser Asn Leu Gln			
100	105	110	
Thr Leu Phe Ser Gln Ala Tyr Ser Ala Gly Ala Arg Ile His Thr Asn			
115	120	125	
Ser Trp Gly Ala Ala Val Asn Gly Ala Tyr Thr Thr Asp Ser Arg Asn			
130	135	140	
Val Asp Asp Tyr Val Arg Lys Asn Asp Met Thr Ile Leu Phe Ala Ala			
145	150	155	160
Gly Asn Glu Gly Pro Asn Gly Gly Thr Ile Ser Ala Pro Gly Thr Ala			
165	170	175	
Lys Asn Ala Ile Thr Val Gly Ala Thr Glu Asn Leu Arg Pro Ser Phe			
180	185	190	
Gly Ser Tyr Ala Asp Asn Ile Asn His Val Ala Gln Phe Ser Ser Arg			
195	200	205	
Gly Pro Thr Lys Asp Gly Arg Ile Lys Pro Asp Val Met Ala Pro Gly			
210	215	220	
Thr Phe Ile Leu Ser Ala Arg Ser Ser Leu Ala Pro Asp Ser Ser Phe			
225	230	235	240
Trp Ala Asn His Asp Ser Lys Tyr Ala Tyr Met Gly Gly Thr Ser Met			
245	250	255	

Ala Thr Pro Ile Val Ala Gly Asn Val Ala Gln Leu Arg Glu His Phe

260

265

270

Val Lys Asn Arg Gly Ile Thr Pro Lys Pro Ser Leu Leu Lys Ala Ala

275

280

285

Leu Ile Ala Gly Ala Ala Asp Ile Gly Leu Gly Tyr Pro Asn Gly Asn

290

295

300

Gln Gly Trp Gly Arg Val Thr Leu Asp Lys Ser Leu Asn Val Ala Tyr

305

310

315

320

Val Asn Glu Ser Ser Ser Leu Ser Thr Ser Gln Lys Ala Thr Tyr Ser

325

330

335

Phe Thr Ala Thr Ala Gly Lys Pro Leu Lys Ile Ser Leu Val Trp Ser

340

345

350

Asp Ala Pro Ala Ser Thr Thr Ala Ser Val Thr Leu Val Asn Asp Leu

355

360

365

Asp Leu Val Ile Thr Ala Pro Asn Gly Thr Gln Tyr Val Gly Asn Asp

370

375

380

Phe Thr Ser Pro Tyr Asn Asp Asn Trp Asp Gly Arg Asn Asn Val Glu

385

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395

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Asn Val Phe Ile Asn Ala Pro Gln Ser Gly Thr Tyr Thr Ile Glu Val

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Gln Ala Tyr Asn Val Pro Val Gly Pro Gln Thr Phe Ser Leu Ala Ile

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Val Asn

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Met	Arg	Lys	Lys	Lys	Lys	Val	Phe	Leu	Ser	Val	Leu	Ser	Ala	Ala
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Ala	Ile	Leu	Ser	Thr	Val	Ala	Leu	Ser	Asn	Pro	Ser	Ala	Gly	Gly
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gca agg aat ttt gat ctg gat ttc aaa gga att cag aca aca act 135

Ala Arg Asn Phe Asp Leu Asp Phe Lys Gly Ile Gln Thr Thr Thr

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gat gct aaa ggt ttc tcc aag cag ggg cag act ggt gct gct gct 180

Asp Ala Lys Gly Phe Ser Lys Gln Gly Gln Thr Gly Ala Ala Ala

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Phe Leu Val Glu Ser Glu Asn Val Lys Leu Pro Lys Gly Leu Gln

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Lys Lys Leu Glu Thr Val Pro Ala Asn Asn Lys Leu His Ile Ile

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caa ttc aat gga cca att tta gaa gaa aca aaa cag cag ctg gaa 315

Gln Phe Asn Gly Pro Ile Leu Glu Glu Thr Lys Gln Gln Leu Glu

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aaa aca ggg gca aag att ctc gac tac ata cct gat tat gct tac att 363

Lys Thr Gly Ala Lys Ile Leu Asp Tyr Ile Pro Asp Tyr Ala Tyr Ile

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gtc gag tat gag ggc gat gtt aag tca gca aca agc acc att gag cac 411

Val Glu Tyr Glu Gly Asp Val Lys Ser Ala Thr Ser Thr Ile Glu His

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gtg gaa tcc gtg gag cct tat ttg ccg ata tac aga ata gat ccc cag 459

Val Glu Ser Val Glu Pro Tyr Leu Pro Ile Tyr Arg Ile Asp Pro Gln

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ctt ttc aca aaa ggg gca tca gag ctt gta aaa gca gtg gcg ctt gat 507

Leu Phe Thr Lys Gly Ala Ser Glu Leu Val Lys Ala Val Ala Leu Asp

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aca aag cag aaa aat aaa gag gtg caa tta aga ggc atc gaa caa atc 555

Thr Lys Gln Lys Asn Lys Glu Val Gln Leu Arg Gly Ile Glu Gln Ile

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gca caa ttc gca ata agc aat gat gtg cta tat att acg gca aag cct 603

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Glu Tyr Lys Val Met Asn Asp Val Ala Arg Gly Ile Val Lys Ala Asp

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Asn Asn Ala Asn Asp Thr Asn Gly His Gly Thr His Val Ala Gly Ser			
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gta tta gga aac ggc tcc act aat aaa gga atg gcg cct cag gcg aat			891
Val Leu Gly Asn Gly Ser Thr Asn Lys Gly Met Ala Pro Gln Ala Asn			
80	85	90	
cta gtc ttc caa tct atc atg gat agc ggt ggg gga ctt gga gga cta			939
Leu Val Phe Gln Ser Ile Met Asp Ser Gly Gly Gly Leu Gly Gly Leu			
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cct tcg aat ctg caa acc tta ttc agc caa gca tac agt gct ggt gcc			987
Pro Ser Asn Leu Gln Thr Leu Phe Ser Gln Ala Tyr Ser Ala Gly Ala			
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aga att cat aca aac tcc tgg gga gca gca gtg aat ggg gct tac aca			1035
Arg Ile His Thr Asn Ser Trp Gly Ala Ala Val Asn Gly Ala Tyr Thr			
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Thr Asp Ser Arg Asn Val Asp Asp Tyr Val Arg Lys Asn Asp Met Thr	
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Ile Leu Phe Ala Ala Gly Asn Glu Gly Pro Asn Gly Gly Thr Ile Ser	
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Val Met Ala Pro Gly Thr Phe Ile Leu Ser Ala Arg Ser Ser Leu Ala	
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Pro Asp Ser Ser Phe Trp Ala Asn His Asp Ser Lys Tyr Ala Tyr Met	
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Gly Gly Thr Ser Met Ala Thr Pro Ile Val Ala Gly Asn Val Ala Gln

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Leu Arg Glu His Phe Val Lys Asn Arg Gly Ile Thr Pro Lys Pro Ser

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Ser Leu Val Trp Ser Asp Ala Pro Ala Ser Thr Thr Ala Ser Val Thr

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Tyr Val Gly Asn Asp Phe Thr Ser Pro Tyr Asn Asp Asn Trp Asp Gly

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Arg Asn Asn Val Glu Asn Val Phe Ile Asn Ala Pro Gln Ser Gly Thr

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Tyr Thr Ile Glu Val Gln Ala Tyr Asn Val Pro Val Gly Pro Gln Thr

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